discounts Mitrofanov's assumption of the existence of the collector in the electrical double layer and gives some other factors which he has found to be contrary to Mitrofanov's views.

S.V. Bessonov of the Irkutskiy gorno-metallurgicheskiy institut (Irkutsk Mining-metallurgical Institute) welcomes contributions on methods applicable to flotation-kinetics research but maintains that Mitrofanov's criticisms of radiographic methods are experimentally unsupported. He mentions work at the Institut gornogo dela AN SSSR (Mining Institute of the Ac.Sc.USSR) which clearly contradicts that author's contention that the results of drying-films experiments represent the distribution of reagent over glass as much as over mineral particles. Bessonov particularly deplores unfounded criticism by Mitrofanov of a technique which has contributed to the progress and international reputation of Soviet science but emphasises that he favours constructive criticism.

V.I. Klassen classifies Mitrofanov's experiments as artificially contrived to support incorrect ideas. The basis of these ideas is that when a mineral particle is

removed from the pulp it takes with it an envelope of reagent-containing water; when the water evaporates the envelope splits into islands which lead to localised fixing of the tracer-containing reagent. In correctly conducted radiographic experiments the possibility of this happening is carefully avoided, e.g. by repeated washing of the particle. He also points out that if Mitrofanov's views were correct, the amount of collector on particles remaining in the tailings would be much more than on those in the concentrate: the opposite is found experimentally. Mitrofanov's attitude is inconsistent since he accepts radiometry of powders, to which his own objections should apply. The author urges further studies in this field.
A.K. Livshits does not deal specifically with Mitrofanov's article but himself criticises some work in which radiographic methods were used. The author admits that any of the microradiograms published give a direct picture of the reagent-distribution in particle surfaces. A general criticism is that the purity of the reagent is never stated: but the presence of impurities could alter the radiographic

On the Use of Radiography in Work on the Theory of Flotation

pattern and the presence of radioactive sulphur is likely to lead to their production. It may well be impossible to wash the impurities off the mineral surface. The author complains of the lack of quantitative data and the frequent discrepancies of results, e.g. between those of V.I. Klassen and of I.N. Plaksin and R.Sh.Shafeyev, published in Tsvetnyye Metally, Nr 7 for 1957 and 1958, respectively. He notes that the first attempts at quantitative radiography confirmed the validity of doubts on the usefulness of results based on visual examination of radiographic patterns. The author regards much of the pattern obtained by Plaksin and Shafeyev as being due to liquid droplets. He deals with some other published data and concludes, making specific recommendation, that much remains to be done to establish the radiographic method for flotation-kinetic studies. In the editorial introduction the following are invited to contribute to the discussion: M.A. Eygeles, V.A. Mokrousov, O.S. Bogdanov, G.S. Strel'styn, V.Ya. Khaynman and S.I. Krokhin (workers in flotation-theory research) and N.V. Matveyenko, M.I. Gorodetskiy,

SOV/136-59-3-17/21

On the Use of Radiography in Work on the Theory of Flotation

M.M. Polyakov and S.N. Kulinin (works' personnal).

ASSOCIATION : Irkutskiy gorno-metallurgicheskiy institut (Irkutsk Mining-metallurgical Institute)
(Bessonov, S. V.)

Card5/5

AUTHOR: Klassen, V.I., Professor SOV/136-59-3-19/21

TITLE: Reviews and Bibliography (Retsenzii i bibliografiya)

PERIODICAL: Tsvetnyye Metally, 1959, 32 Nr 3, pp 81 - 85 (USSR)

ABSTRACT: The following book is reviewed: K.L. Sutherland and I.V. York "Principles of Flotation". Translation from English. Editor - A.K. Livshits. Metallurgizdat, 1958. There is 1 table.

Card 1/1

VLASOVA, Nina Sergeyevna; KLASSEN, Villi Ivanovich; PLAKSIN, Igor' Nikolayevich; KHODAKOV, I.K., red. izd-va; BERESLAVSKAYA, L.Sh., tekhn. red.

[Principles of selecting reagents for flotation of difficult-to-dress coal fines] O printsipakh podbora reagentov dlia flotatsionnogo obogashcheniia melochi trudnoobogatimykh uglei. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1960. 33 p. (MIRA 14:7)
(Flotation) (Coal)

PLAKSIN, I.N., red.; KLASSEN, V.I., prof., doktor tekhn.nauk, red.; PODKOSOV, L.G., kand.tekhn.nauk, otv.red.; TSUKERMAN, S.Ya., red.izd-va; KOMDRAT'YEVA, M., tekhn.red.

[Theory of gravity methods of mineral ore dressing: transactions] Voprosy teorii gravitatsionnykh metodov obogashcheniia poleznykh iskopaemykh; trudy. Pod red. I.N.Plaksina i V.I.Klassena. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 258 p. (MIRA 14:1)

1. Vsesoyuznoye soveshchaniye po voprosam teorii gravitatsionnykh metodov obogashcheniya poleznykh iskopayemykh. 1958. 2. Chlen-korrespondent AN SSSR (for Plaksin). 3. Institut gornogo dela AN SSSR (for Plaksin, Klassen). 4. Vsesoyuznyy institut mineral'nogo syr'ya (for Podkosov).

(Ore dressing)

KLASSEN, V. I.

"Trends in the Radical Improvement of Machinery for the Beneficiation of Coal."

report presented at the Conference on Beneficiation of Useful Minerals, sponsored by the Learned Council of the IOD, AS USSR, Balakhash/Karaganda, 29 Nov - 4 Dec 1960.

KLASSEN, V. I.

"On the Trend Towards a Radical Improvement in the Design of Flotation Machinery"

report presented at the Conference on Benefication of Useful Minerals, sponsored by the Learned Council of the IGI, AS USSR, Balakhash/Karaganda, 29 Nov - 4 Dec 1960.

KLASSEN, V.I.

"Theoretical Basis of Flotation by Gas Precipitation."

report to be presented at the Intl. Mineral Processing Congress, London, England, 6-9 Apr 60.
Head of Laboratory of Mineral Dressing, Institute of Mining, USSR Academy of Sciences.

KLASSEN, V.I.; MESHCHERYAKOV, N.F.

Flotation in the comminution cycle. Izv. AN Kazakh.SSR. Ser. met. obog. i ogneup. no.3:3-8 '60. (MIRA 14:4)
(Flotation)

KLASSEN, V.I., prof., doktor tekhn.nauk; LITOVKO, V.I., kand.tekhn.nauk

Some problems in sizing mineral grains in a hydrocyclone in a water medium. Trudy Inst.gor.dela 6:38-45 '60. (MIRA 14:4)

(Ore dressing) (Separators (Machines))

VLASOVA, N.S.; KLASSEN, V.I.; PLAKSIN, I.N.

Possibility of using emulsifying agents in the flotation of coal slimes. Koks i khim. no.4:10-12 '60. (MIRA 13:7)

1. Institut gornogo dela AN SSSR.
(Coal preparation).
(Flotation)
(Emulsifying agents)

BEDRAN', N.G.; ZHENDRINSKIY, A.P.; KLASSEN, V.I.

Design characteristics and results of testing the new KVM-DOI flotation machine. Ugol' Ukr. 4 no.10:18-21 O '60. (MIRA 13:10)

1. Dnepropetrovskiy gornyy institut (for Bedran', Zhendrinskiy).
2. Institut gornogo dela AN SSSR (for Klassen).
(Coal preparation--Equipment and supplies)
(Flotation--Equipment and supplies)

KLASSEN, V.I., prof., doktor tekhn.nauk; LITOVKO, V.I., kand.tekhn.nauk;

Some problems in separating mineral grains in a hydrocyclone in a water medium. Nauch.soob.Inst.gor.dela 6:38-45 '60. (MIRA 15:1)
(Ore dressing)
(Separators (Machines))

VLASOVA, N.S., kand.tekhn.nauk; KLASSEN, V.I., doktor tekhn.nauk;
Prinimala uchastiye: STEPANOVA, Ye.N., mladshiy nauchnyy sotrudnik

Flotation qualities of aldehydes. Nauch.soob.Inst.gor.dela 6:
67-76 '60. (MIRA 15:1)
(Aldehydes) (Flotation)

SOLNYSHKIN, V.I., kand.khimicheskikh nauk; PLAKSIN, I.N.;
KLASSEN, V.I., doktor tekhn.nauk

Heat of wetting of coal by aqueous solutions of flotation reagents. Nauch.soob.Inst.gor.dela 6:117-128 '60. (MIRA 15:1)

1. Chlen-korrespondent AN SSSR (for Plaksin).
(Coal preparation)

KLASSEN, V.I. (Moskva), MEVSKAYA, V.A. (Moskva)

Action of frother-collection reagents during coal flotation in presence of finely divided slimes. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.6:168-172 N-D '60. (MIRA 13:12)
(Flotation--Equipment and supplies)
(Coal preparation)

KLASSEN, V.I., doktor tekhn.nauk; MAO TSZI-FAN' [Mao Chi-fan], insh.

Studying the interaction of reagents with hematite by means of radioactive isotopes. Izv. vys. ucheb. zav.; gor. zhur. no.9:137-140 '60. (MIRA 13:9)

1. Moskovskiy gornyy institut im. I.V.Stalina. Rekomend. kafedroy obogashcheniya poleznykh iskopayemykh.
(Flotation--Equipment and supplies)
(Radioisotopes--Industrial applications)

KLASSEN, V.I., doktor tekhn.nauk; TIKHONOV, S.A., kand.tekhn.nauk

Effect of sodium oleate on the flotation properties of air bubble surfaces. Tsvet. met. 33 no.10:4-8 O '60. (MIRA 13:10)

1. Institut gornogo dela AN SSSR.
(Flotation--Equipment and supplies)

VLASOVA, N.S.; KLASSEN, V.I.; PLAKSIN, I.N.

Use of aliphatic alcohols in coal flotation. Ugol' 35 no. 4:45-48 Ap '60. (MIRA 14:4)

(Flotation--Equipment and supplies)

GLEBOTSKIY, Vladimir Aleksandrovich; prof. dokt.tekhn.nauk; KLASSEN, Villi Ivanovich, prof.dokt.tekhn.nauk; PLAKSIN, Igor' Nikolayevich,; POL'KIN, S.I., otv.red.; RYKOV, M.A., red.izd-va; KACHALKINA, Z.I., red.izd-vo; SAL'TSOVSKIY, M.S., red.izd-va; PROZOROVSKAYA, V.L., tekhn.red. BOLDYREVA, Z.A., tekhn.red.

[Flotation] Flotatsiia. Pod obshchei red. I.N.Plaksina. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 547 p.

(MIRA 14:5)

1. Chlen-korrespondent AN SSSR (for Plaksin)
(Flotation)

KLASSEN, V.I. AND TIKHONOV, S. A.

"On the Influence of Bubble Age in the Flotation of Non-Metallic Minerals with Sodium Oleate"

Report presented at the Colloque on Preparation of Anorganic Non-Metallic Minerals, Freiberg, GDR, 20-30 Aug 61

KLASSEN, V. I., PLAKSIN, Igor' N.

"Froth flotation processes."

To be submitted for the Gordon Research Conferences, Chemistry of Coal, New Hampton, N.H. 13-16 June 1961.

Head of Laboratory of Mineral Dressing in the Institute of Mining of Academy of Sciences USSR.

DEBERDEYEV, I.Kh.; KLASSEN, V.I.; MILLER, E.V.

Effect of the vibration of the medium on the sedimentation of fine-grained minerals. Izv.AN Uz.SSR. Ser.tekh.nauk no.2:79-84 '61. (MIRA 14:3)

1. Institut gornogo dela AN SSSR i Gornyy otdel AN UzSSR.
(Sedimentation and deposition)

KLASSEN, V.I.

Reason for better flotability of glossy coal ingredients.
Koks i khim. no.7:8-9 Jl '61. (MIRA 14:9)

1. Institut gornogo dela AN SSSR.
(Flotation)

KLASSEN, V.I.; VLASOVA, N.S.

Introducing the frothing agent at the Irmino Central Coal Preparation Plant. Biul.tekh.-ekon.inform. no.7:19-20 '61. (MIRA 14:8)

(Irmino--Coal Preparation)

KLASSEN V.I., prof., doktor tekhn.nauk

Directions in the drastic improvement of flotation machines on the basis of the pulp aeration theory and the mineralization of bubbles. TSvet. met. 34 no.1:15-19 Ja '61. (MIRA 17:3)

1. Institut gornogo dela AN SSSR.

KLASSEN, V.I.; NEVSKAYA, V.A.; VLASOVA, N.S.

Use of radioactive isotopes in studying the reaction of flotation reagents with coals. Ugol' 36 no.7:41-44 Jl '61. (MIRA 15:2)

1. Institut gornogo dela im. A.A.Skochinskogo.
(Flotation) (Radioisotopes--Industrial application)

KLASSEN, V.I.; KROKHIN, S.I.

Concentration of xathogenate along a three-phase contact in flotation.
Dokl. AN SSSR 136 no.4:886-888 F '61. (MIRA 14:1)

1. Predstavleno akademikom P.A. Rebinderom.
(Xanthic acid) (Flotation)

VLASOVA, Nina Sergeyevna; KLASSEN, Villi Ivanovich; PLAKSIN, Igor' Nikolayevich; KHAZHINSKAYA, G.N., otv. red.; MAKARENKO, M.G., red. izd-va; TIKHOMIROVA, S.G., tekhn. red.

[Studying the action of reagents in coal flotation] Issledovanie deistviia reagentov pri flotatsii kamennykh uglei. Moskva, Izd-vo Akad. nauk SSSR, 1962. 169 p. (MIRA 15:4)
(Flotation)

KLASSEN, V.I., doktor tekhn.nauk

Classification of reagents used in the flotation of coals. Nauch. soob. IGD 16:19-22 '62. (MIRA 16:8)
(Flotation—Equipment and supplies)

VLASOVA, N.S., kand.tekhn.nauk; Prinimali uchastiye: KLASSEN, V.I., prof., doktor tekhn.nauk; STEPANOVA, Ye.N., mladshiy nauchnyy sotrudnik

Effect of oxidation in the flotation of easily prepared coal by polar and nonpolar compounds. Nauch. soob. IGD 16:43-51 '62. (MIRA 16:8)

(Flotation) (Oxidation)

KLASSEN, V.I., PLAKSIN, I.N.

"Methods of improving the process of froth flotation."

Report to be submitted for the 4th Intl. Coal Preparation Congress Harrogate, Yorkshire, Great Britain 28 Mat-1 June '62.

Inst. of Mining, AS USSR

AKOPOV, M. G., kand. tekhn. nauk; DUNAYEV, M. N., inzh.; KLASSEN, V. I., prof., doktor tekhn. nauk; KULIK, P. P., inzh.; LITOVKO, V. I., kand. tekhn. nauk; MALOFEYEVA, K. T., inzh.

Industrial testing of the preparation of coal pulp with hydrocyclones in a water medium. Obog. i brik. ugl. no.24: 3-10 '62. (MIRA 15:10)

(Coal preparation) (Separators(Machines))

KLASSEN, V.I.; KROKHIN, S.I.; TIKHONOV, S.A.

Effect of halation by a nonpolar reagent of the area of contact of abubble with a mineral particle on their force of adhesion in flotation. TSvet. met. 35 no.4:9-11 Ap '62. (MIRA 15:4)
(Flotation)

KLASSEN, V.I.; LYASKOVSKIY, Ya.T.

Effect of inorganic salts on the full jump of potential at the anthracite - aqueous solution interface. Dokl.AN SSSR 145 no.4:857-859 Ag '62. (MIRA 15:7)

1. Institut gornogo dela im. A.A.Skochinskogo i Silesskiy politekhnicheskiy institut (Pol'sha). Predstavleno akademikom P.A.Rebinderom.
(Electrodes, Carbon) (Salts) (Flotation)

PLAKSIN, I.N., otv. red.; GLEMBOTSKIY, V.A., doktor tekhn. nauk, zam. otv. red.; KLASSEN, V.I., doktor tekhn. nauk, red.; OKOLOVICH, A.M., kand. tekhn.nauk, red.; TRET'YEKOV, O.V., red.; BARSKIY, L.A., kand. tekhn. nauk, red.; MAKOVSKIY, G.N., red. izd-va; GOLUB', S.P., tekhn. red.

[Ore dressing and coal preparation in the Kazakh S.S.R.; transactions of the out-of-town session in Balkhash and Karaganda, of the Section on Mineral Dressing of the Learned Council of the A.A.Skochinskii Mining Institute (November-December 1960)]Zadachi obogashcheniia rud i uglei Kazakhskoi SSR; trudy vyezdnoi sessii sektsii obogashcheniia poleznykh iskopaemykh Ucheneogo soveta Instituta i gornogo dela im. A.A.Skochinskogo v gorodakh Balkhashe i Karagande, noiabr'-dekabr' 1960 g. Moskva, Izd-vo Akad. nauk SSSR, 1962. 173 p. (MIRA 15:10)

1. Chlen-korrespondent Akademii nauk SSSR (for Plaksin).
2. Institut gornogo dela im. A.A.Skochinskogo (for Plaksin, Glembotskiy, Okolovich, Klassen).

(Ore dressing) (Coal preparation)

KLASSEN, Villi Ivanovich, prof., doktor tekhn. nauk; SOKOLOV, V.Ye., otv. red.; OKUN', R.M., red. izd-va; DERGILEVA, I.Ya., tekhn. red.

[Flotation of coals] Flotatsiia uglei. Moskva, Gosgortekhizdat, 1963. 378 p. (MIRA 16:7)
(Coal preparation)

VLASOVA, Nina Sergeyevna; KLASSEN, Vilii Ivanovich; MAKARENKO, M.G., red. izd-va; UL'YANOVA, O.G., tekhn. red.

[Frothing agent, a new reagent for coal slurry flotation] Novyi reagent dlia flotatsii kamennougol'nykh shlamov-penoreagent. Moskva, Izd-vo AN SSSR, 1963. 36 p. (MIRA 16:7)
(Coal preparation) (Flotation)

BELIKOV, Aleksandr Mikhaylovich[deceased]; KLASSEN, V.I., doktor tekhn. nauk, retsenzent; BURSHTEYN, G.Ya., doktor ekon. nauk, retsenzent; SUROVA, V.A., red.izd-va; LOMILINA, L.N., tekhn. red.

[Economics of coal preparation and utilization] Ekonomika obogashcheniia i ispol'zovaniia uglei. Moskva, Gosgortekhizdat, 1963. 111 p. (MIRA 16:11)
(Coal preparation)

LYASKOVSKIY, Ya.T.; KLASSEN, V.I.

Theory of the effect of inorganic electrolytes in the salt flotation of coals. Izv. AN SSSR. Otd. tekh. nauk. Met. i gor. delo no.3: 182-189 My-Je '63. (MIRA 16:7)
(Coal preparation) (Flotation)

DIN LI-TSIN [Ting Li-ch'ing], inzh.; KLASSEN, V.I., prof., doktor tekhn.nauk

Interaction of inorganic electolytes with coal and rock. Nauch. soob. IGD 19:23-27 '63. (MIRA 17:2)

KLASSEN, V.I.; LYASKOVSKIY, Ya.T.

Effect of inorganic salts on the potential of the anthracite electrode and the stability of anthracite and carbon suspensions in relation to their "salt" flotation. Koll.zhur. 25 no.5: 549-554 S-O '63. (MIRA 16:10)

1. Institut gornogo dela im. A.A.Skochinskogo, Moskva.

KLASSEN, V.I., doktor tekhn.nauk; LITOVKO, V.I., kand.tekhn.nauk; ZAREMBA, S.A., kand.tekhn.nauk; BLAGOVA, Z.S., inzh.; DOBROKHOTOVA, I.A., inzh.; KARAMYSHEV, A.P., inzh.

Improvement of physical and mechanical properties of a magnetite suspension by adding a peptizing agent. Obog.i brik.ugl. no.30:50-57 '63. (MIRA 17:4)

1. Institut gornogo dela imeni Skochinskogo (for Klassen, Litovko, Zaremba). 2. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut po obogashcheniyu i briketirovaniyu ugley (for Blagova, Dobrokhotova). 3. Obogatitel'naya fabrika shakhty imeni Abakumova tresta Rutchenkovugol' Donetskogo basseyna (for Karamyshev).

KLASSEN, V.I.; LITOVKO, V.I.; MYASNIKOV, N.F.

Improving the physicomechanical properties of ferrosilicon suspensions with the help of reagents. TSvet. met. 36 no.10: 17-20 O '63. (MIRA 16:12)

KLASSEN, V.I.; PIKKAT-ORDYNSKIY, O.A.; VENKOVA, M.D.; ZHENDRINSKIY, A.P.; MATVEYENKO, N.V.; GORCHETSKIY, M.I.; YEGIZAROV, A.A.; PECHENKIN, V.V.; SEREGIN, N.V.; KEPP, G.A., YATSENKO, N.N.

Industrial testing of an ejector-type flotation machine for the flotation of ores. TSvet. met. 36 no.4:7-13 Ap '63. (MIRA 16:4)

(Flotation—Equipment and supplies)

BARSKIY, Lev Abramovich; KLASSEN, V.I., doktor tekhn. nauk, prof. retsenzent

[How minerals become useful] Kak iskopaemye stanoviatsia poleznymi. Moskva, Nedra, 1964. 154 p. (MIRA 18:3)

KLASSEN, V. I.; LITOVKO, V. I.; MYASNIKOV, N. F.

"Improvement of physical and mechanical properties of ferrosilicon suspensions with help of reagents."

report submitted for 7th Intl Mineral Processing Cong, New York, 20-25 Sep 64.

PREYGERZON, Grigoriy Izrayelevich, dots., kand. tekhn. nauk; KLASSEN V.I., doktor tekhn. nauk, prof., retsenzent; ARTYUSHIN, S.P., inzh., retsenzent

[Coal preparation] Obogashchenie uglia. Moskva, Nedra, 1964. 539 p. (MIRA 17:12)

KLASSEN, V.I.; KRASNOV, O.D.

Possibility of improving ore dressing in heavy suspensions with the help of vibration. Gor.zhur. no.10:64-66 O '64.
(MIRA 18:1)

1. Institut gornogo dela im. A.A.Skochinskogo.

KLASSEN, V.I.; TIKHONOV, S.A.; Prinimali uchastiye: KRAYEVSKAYA, R.S.; UFIMTSEVA, O.S.

Mechanical carrying out of pulp particles during flotation. Tsvet. met. 37 no.9:4-8 S '64. (MIRA 18:7)

KLASSEN, V.I., prof. doktor tekhn. nauk; SHCHERBAKOVA, S.V. inzh.

Improving the technological properties of water by the action of a magnetic field. Gor. zhur. no.5:58-63 My '65. (MIRA 18:5)

1. Institut gornogo dela im. A.A.Skochinskogo.

L 65105-65 EWP(e)/EWT(m)/EWP(t)/EWP(k)/EWP(z)/EWP(b) IJP(c) JD
ACCESSION NR: AP5021976 UR/0286/65/000/014/0038/0038
669.167.24

AUTHOR: Dikhanov, N. M.; Boytsov, L. I.; Zel'din, V. S.; Klassen, V. I.; Kurenkov, I. I.; Plaksin, I. N.; Runov, N. A.; Silayev, A. I.; Snezhko, P. I.

TITLE: A method for producing dispersed ferrosilicon powder. Class 18, No. 172853

35
B

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 38

TOPIC TAGS: powder metal production, silicon alloy, iron alloy

ABSTRACT: This Author's Certificate introduces a method for producing dispersed ferrosilicon powder with a particle size of no more than 100 microns by vaporizing the molten material using hot or cold air. The yield of fine particles is increased and spherical grains are produced by heating the melt in the 1550-1650°C range and passing it through a silicified sleeve with a calibrated opening which guarantees a constant flow of metal. The melt is then sprayed and the particles are separated according to size.

ASSOCIATION: none
SUBMITTED: 19Oct63 ENCL: 00 SUB CODE: MM
NO REF SOV: 000 OTHER: 000
Card 1/1 mep

KLASSEN, V.I.; MAIVEYEV, ..I.

Utilization of the gas liberated from a solution in the grinding-classification cycle. TSvet.met. 38 no.3:5-7 Mr '65.
(MIRA 18:6)

KLASSEN, V.I., doktor tekhn.nauk; LITOVKO, V.I., kand.tekhn.nauk; BLAGOVA, Z.S., inzh.

Effect of sodium phosphates on the technological properties of a magnetite suspension. Ugol' 40 no.3:63-65 Mr '65. (MIRA 18:4)

KLASSEN, V. I. (Prof, Dr. Ing.); KROKHIN, S. I. (B.Sc.)

"Contribution to the study of the mode of action of flotation reagents."

report submitted for 6th Intl Mineral Processing Cong, Cannes, 26 May-2 Jun 63.

[Klassen - Chief of Ore-Dressing Lab, A. A. Skochinskiy Mining Inst, Moscow]

[Krokhin - Asst Lecturer, Holder of Chair for Ore-Dressing, Inst Mining & Metallurgy of the Northern Caucasus]

L 14496-66 EWT(1) IJP(c) WW/GG

ACC NR: AP6004200 SOURCE CODE: UR/0069/66/028/001/0153/0155

AUTHORS: Bruns, S. A.; Klassen, V. I.; Kon'shina, A. K.

ORG: Mining Institute im. Skochinskiy, Moscow (Institut gornogo dela)

TITLE: Change of the extinction of light by water after subjecting the latter to the action of magnetic fields

SOURCE: Kolloidnyy zhurnal, v. 28, no. 1, 1966, 153-155

TOPIC TAGS: water, magnetic field, light absorption

ABSTRACT: The effect of alternating magnetic fields on the light transmittance of water was studied. Distilled water (specific conductance 2 x 10 [illegible] mho) was passed through a glass tube 610 mm long and 6 mm in diameter. The flow rate of the water was 0.6 m/sec, and 9 electromagnets were arranged along the tube. The currents through the magnets were so arranged that adjacent magnets generated fields opposite to each other. These currents could be varied from 0—4.5 amp, permitting a variation of the magnetic field from 0—1500 oersteds. Ten minutes after the water was subjected to the magnetic field, its light transmittance was determined as a function of the magnetic field strength and wavelength of the incident light. The experimental results are presented graphically in Fig. 1. It was found that the magnetic field changed the light transmittance of water by 30% and that the change was a periodic function of the

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L 14496-66
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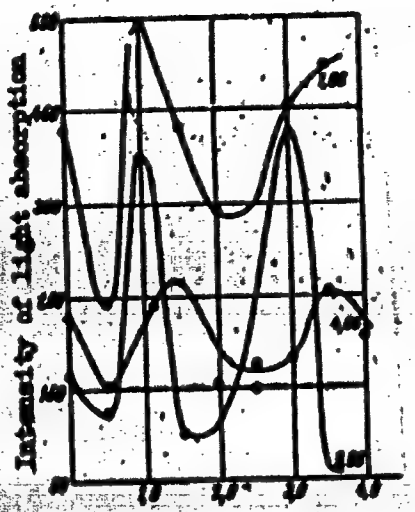


Fig. 1. Influence of the magnetic field strength on the light absorption of water

field strength. The maximum in the absorption curve occurred at one and the same wavelength and was independent of the magnetic field strength. It is suggested that the observed phenomena are due to some structural changes in the water. Orig. art. has: 2 graphs. [04]

SUB CODE: 07/ SUBM DATE: 29Jul65/ ORIG REF: 008/ ATD PRESS: 4197

Card 2/2

L 22706-66 EWT(1)/EWT(m)/EWP(n)-2/EWP(t)/ETC(m)-6 LIP(c) WW/AM/GG

ACC NR: AP6009426 SOURCE CODE: UR/0020/66/166/006/1383/1385

33
32
B

AUTHOR: Klassen, V. I.

ORG: none

TITLE: Change in the wettability of solids by water after the action of a magnetic field on the water

SOURCE: AN SSSR. Doklady, v. 166, no. 6, 1966, 1383-1385

TOPIC TAGS: magnetic effect, flotation, mineral, water

ABSTRACT: The article describes experiments which establish that after the passage of water through a magnetic field of an optimum intensity, the water wets solid surfaces with difficulty. This effect subsists for quite a long period of time, falling away gradually in the course of several hours or days. The magnetic treatment proves to be effective in the flow of water through magnetic fields of alternating polarity. The larger the number of such fields, the lower may be their intensity. On passing water through 6 to 8 fields formed by adjacent electromagnets, the sufficient intensity of the magnetic field did not exceed 103 oersteds. There is an optimum flow rate of the water with respect to the magnetic fields. This rate increases with an increase in the number of fields and their total intensity, and varies from 0.1 to 2

UDC: 541.532.6

Card 1/2

LUGININA, I.G., kand. tekhn. nauk; ZAKHAROV, V.P., inzh.; KLASSEN, V.K., inzh.

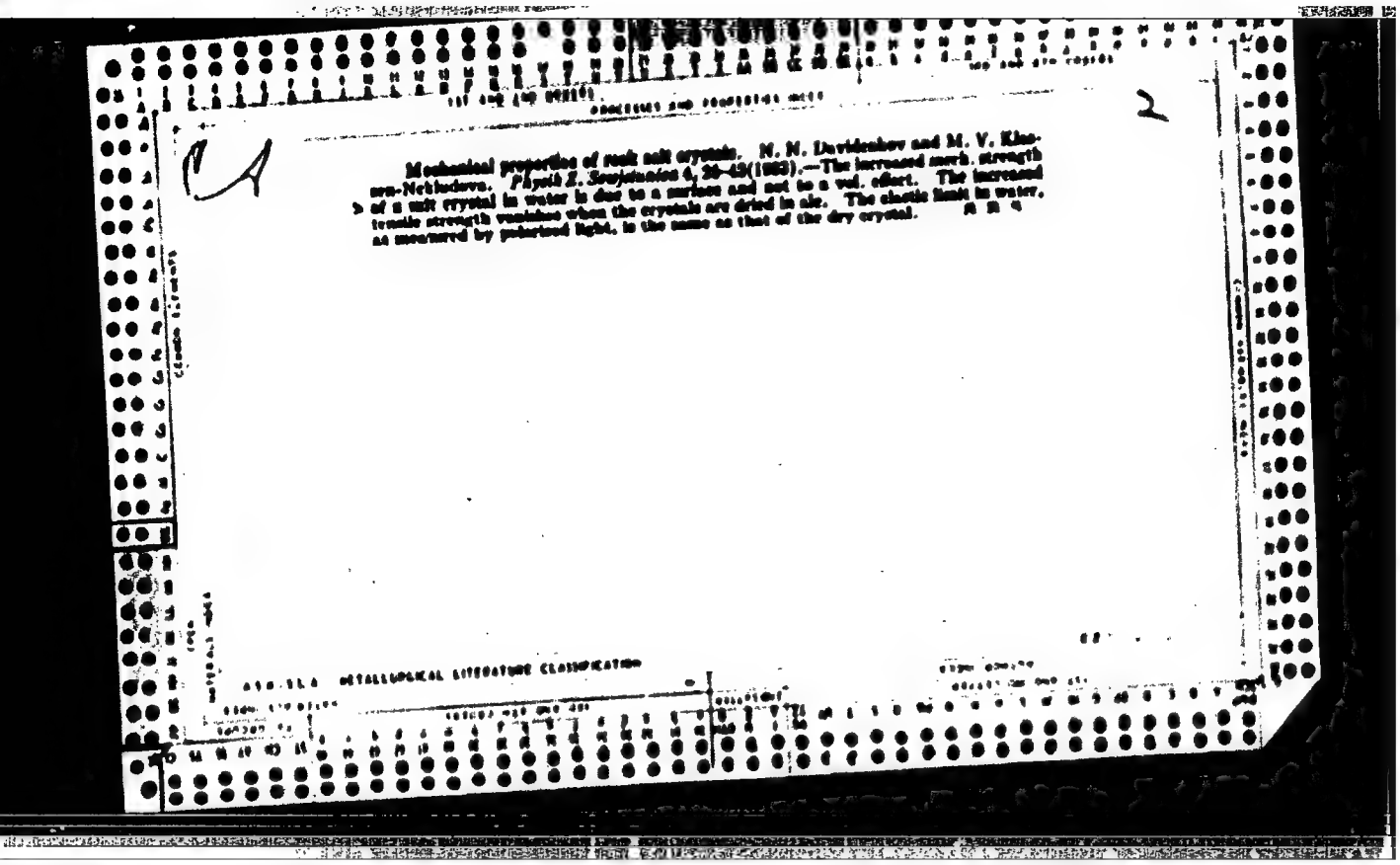
Causes of the appearance of clinker dust. TSement 30 no.3:11-12 My-Je '64. (MIRA 17:11)

1. Kazakhskiy tekhnologicheskiy institut i Chimkentskiy tsementnyy zavod.

CA

2

The effect of water on the rigidity of rock salt. N. N. Davidenkov and M. V. Klassen-Neklyudova. J. Exptl. Theoret. Phys. (U.S.S.R.) 2, No. 5-6, 412-21 (1932). The method of extraction of Kuznetsov, although sufficiently sensitive, failed to show any difference between the hardness of dry rock salt and rock salt that was previously moistened. This is contrary to the work of Schmid and Vaupel (C. A. 24, 2651). The investigation of a sample carefully protected from dissolving showed that the water does not penetrate into the crystal. It has a superficial effect only on the rigidity of the dry surface. The solidity called forth by the soln. of the surface disappears immediately when the specimen is dried. The limiting elasticity coincides with that of dry rock salt. M. G.



CA

Mechanical properties of rock salt crystals. N. N. Davidenkov and M. V. Klassen-Neklyudova. *Physik Z. Sowjetunion* 4, 28–43(1933).—The increased mech. strength of a salt crystal in water is due to a surface and not to a vol. effect. The increased tensile strength vanishes when the crystals are dried in air. The elastic limit in water, as measured by polarized light, is the same as that of the dry crystal. A. B. C.

2

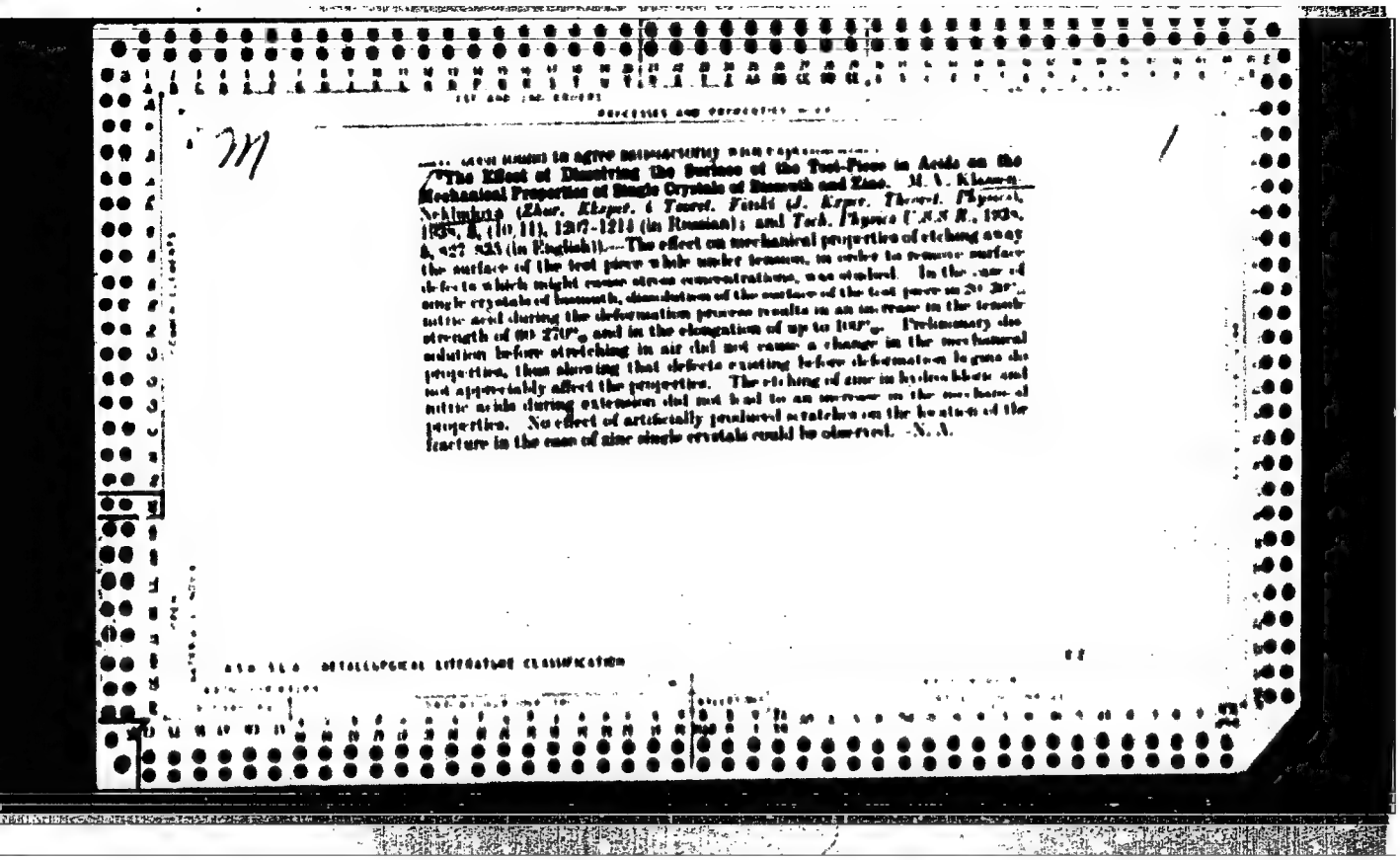
PROCESSES AND PROPERTIES INDEX

ca

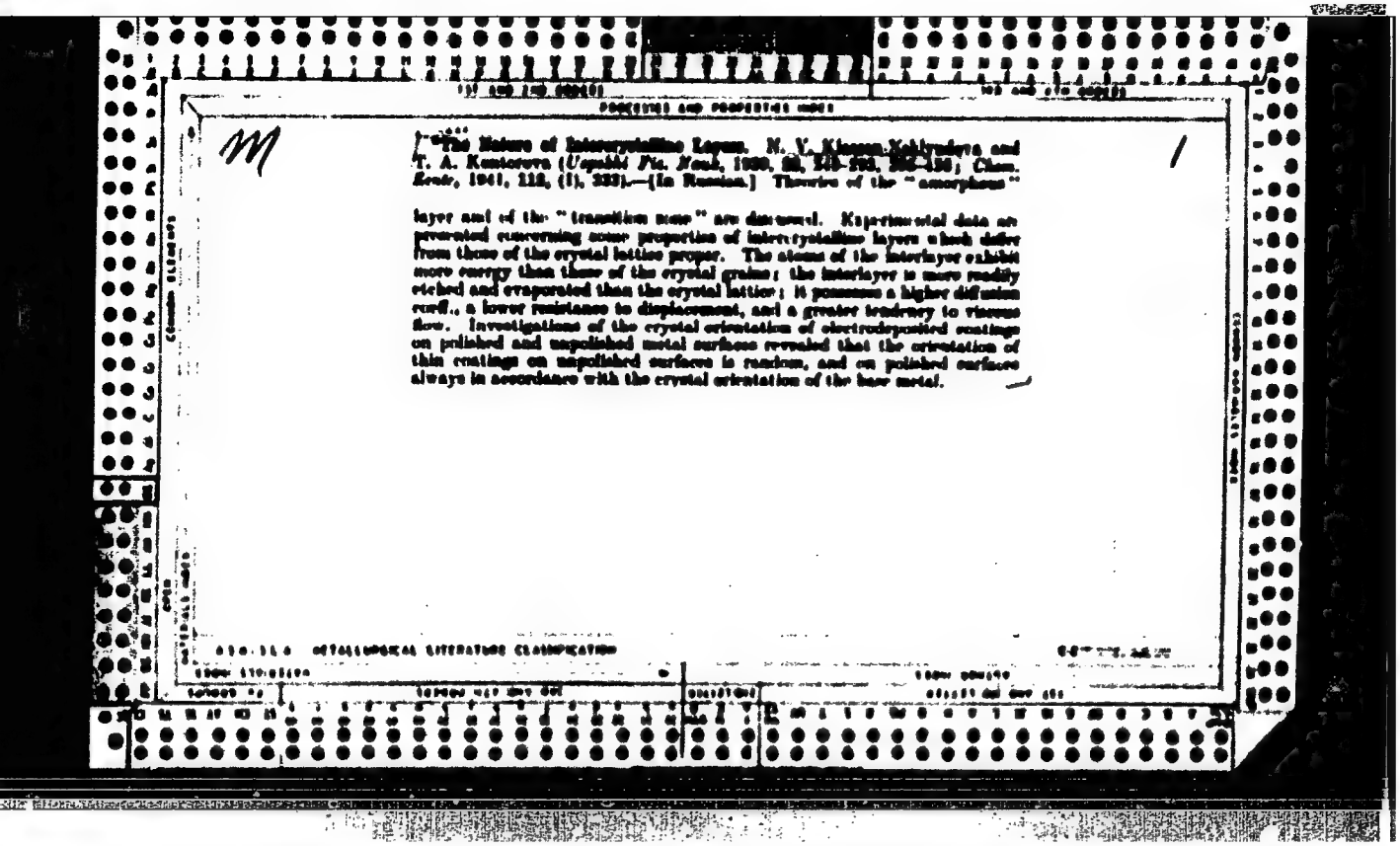
2

The effect of the solution by an acid of the surface of bismuth and zinc single crystals on their mechanical properties. M. [illegible]. *Tech. Phys. U. S. S. R.* 5, [illegible] (in English).—The effect of pulling single crystals of Bi and Zn in acid soln. to etch away surface defects which cause stress concns. was investigated. Bi single crystals with a slip plane 80° to the axis of pull when pulled in 20-80% HNO_3 showed an av. increase in tensile strength of 142% and an av. increase in elongation of 100% over crystals pulled in air. The fact that preliminary etching and pulling in air produced no appreciable improvement showed that surface defects existing before deformation starts do not appreciably affect the mech. properties. Zn crystals showed no increase in mech. properties in either 20-80% HCl or HNO_3. Scratches on the surface of the Zn crystal did not consistently affect the location of the fracture. James W. Poynter

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



"The Effect of Dissolving the Surface of the Test-Piece in Acids on the Mechanical Properties of Single Crystals of Bismuth and Zinc. M. V. Klassen-Neklyudova (*Zhur. Eksper. i Teoret. Fiziki (J. Exper. Theoret. Physics)*, 1938, 8, (10,11), 1207-1214 (in Russian); and *Tech. Physics U.S.S.R.*, 1938, 5, 927-933 (in English)).—The effect on mechanical properties of etching away the surface of the test piece while under tension, in order to remove surface defects which might cause stress concentrations, was studied. In the case of single crystals of bismuth, dissolution of the surface of the test piece in 30-30% nitric acid during the deformation process results in an increase in the tensile strength of 60-270%, and in the elongation of up to 1127%. Preliminary dissolution before stretching in air did not cause a change in the mechanical properties, thus showing that defects existing before deformation began do not appreciably affect the properties. The etching of zinc in hydrochloric and nitric acids during extension did not lead to an increase in the mechanical properties. No effect of artificially produced scratches on the location of the fracture in the case of zinc single crystals could be observed.—N. A.



"The Nature of Intercrystalline Layers. N. V. Klassen-Neklyudova and T. A. Kontorova (*Uspekhi Fiz. Nauk*, 1940, [illegible]; *Chem. Zentr.*, 1941, 112, (I), 233).—[In Russian.] Theories of the "amorphous" layer and of the "transition zone" are discussed. Experimental data are presented concerning some properties of intercrystalline layers which differ from those of the crystal lattice proper. The atoms of the interlayer exhibit more energy than those of the crystal grains; the interlayer is more readily etched and evaporated than the crystal lattice; it possesses a higher diffusion coeff., a lower resistance to displacement, and a greater tendency to viscous flow. Investigations of the crystal orientation of electrodeposited coatings on polished and unpolished metal surfaces revealed that the orientation of thin coatings on unpolished surfaces is random, and on polished surfaces always in accordance with the crystal orientation of the base metal.

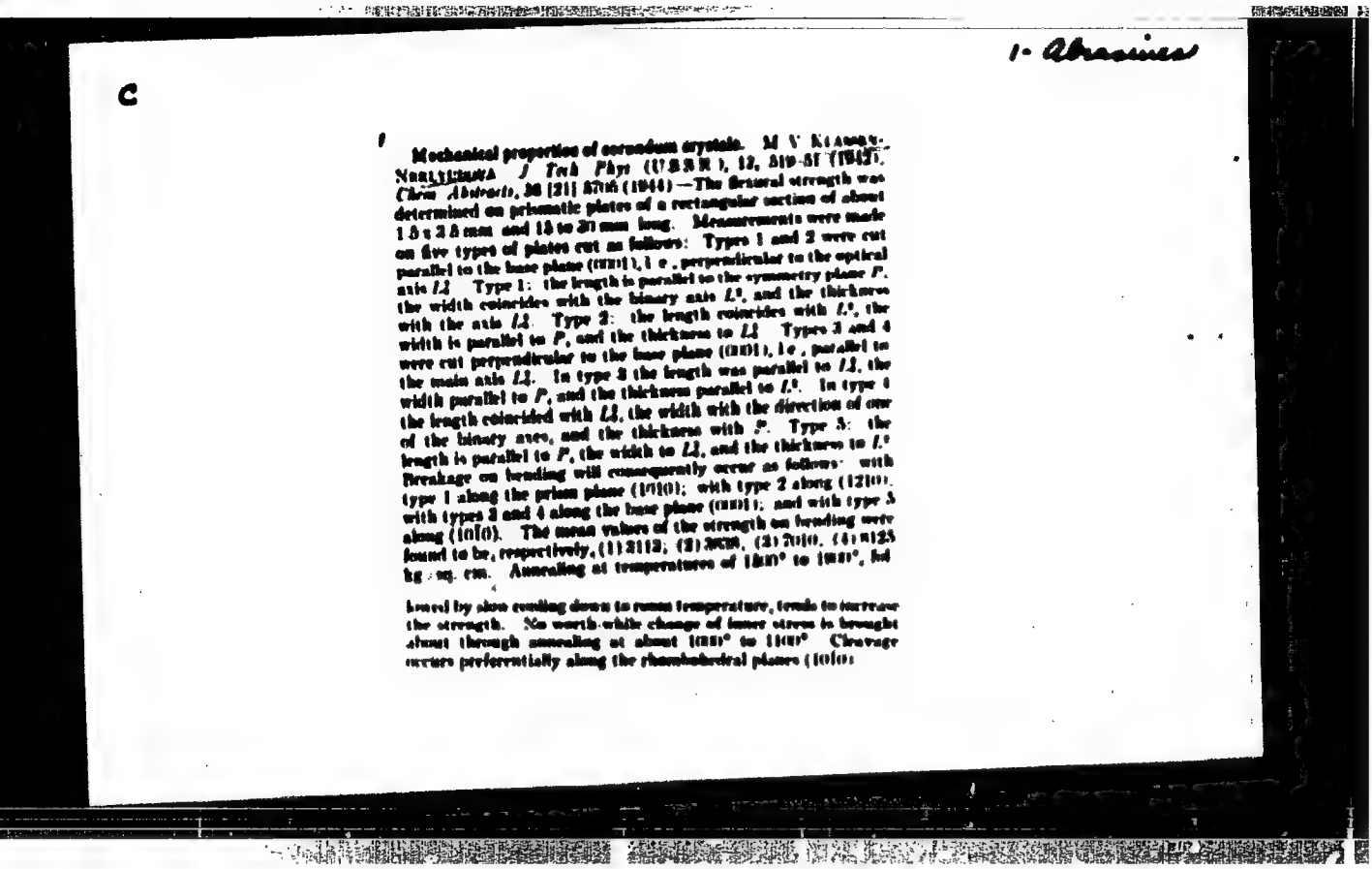
PROCESSES AND PROPERTIES INDEX

m

1

On Some Physical Properties of Intercrystalline Layers. M. V. Klassen-Neklyudova and T. A. Kontorova (*Zhur. Tekhn. Fiziki*, 1940, 10, 1641–1644; *Chem. Zentr.*, 1941, 112, (I), [illegible]).—[In Russian.] It is shown that the intercrystalline layer must be different from the crystal grains on account of its lower density, different solubility (corrodibility), higher diffusion coeff. (diffusion processes taking place more easily in it than within the grains), tendency to recrystallization, &c. The differences determined in practice between the physical properties of the interlayer and the grain may be explained by the lower degree of order of the structure of the interlayer and by differences in chemical composition; the effect of these two factors cannot be clearly separated.

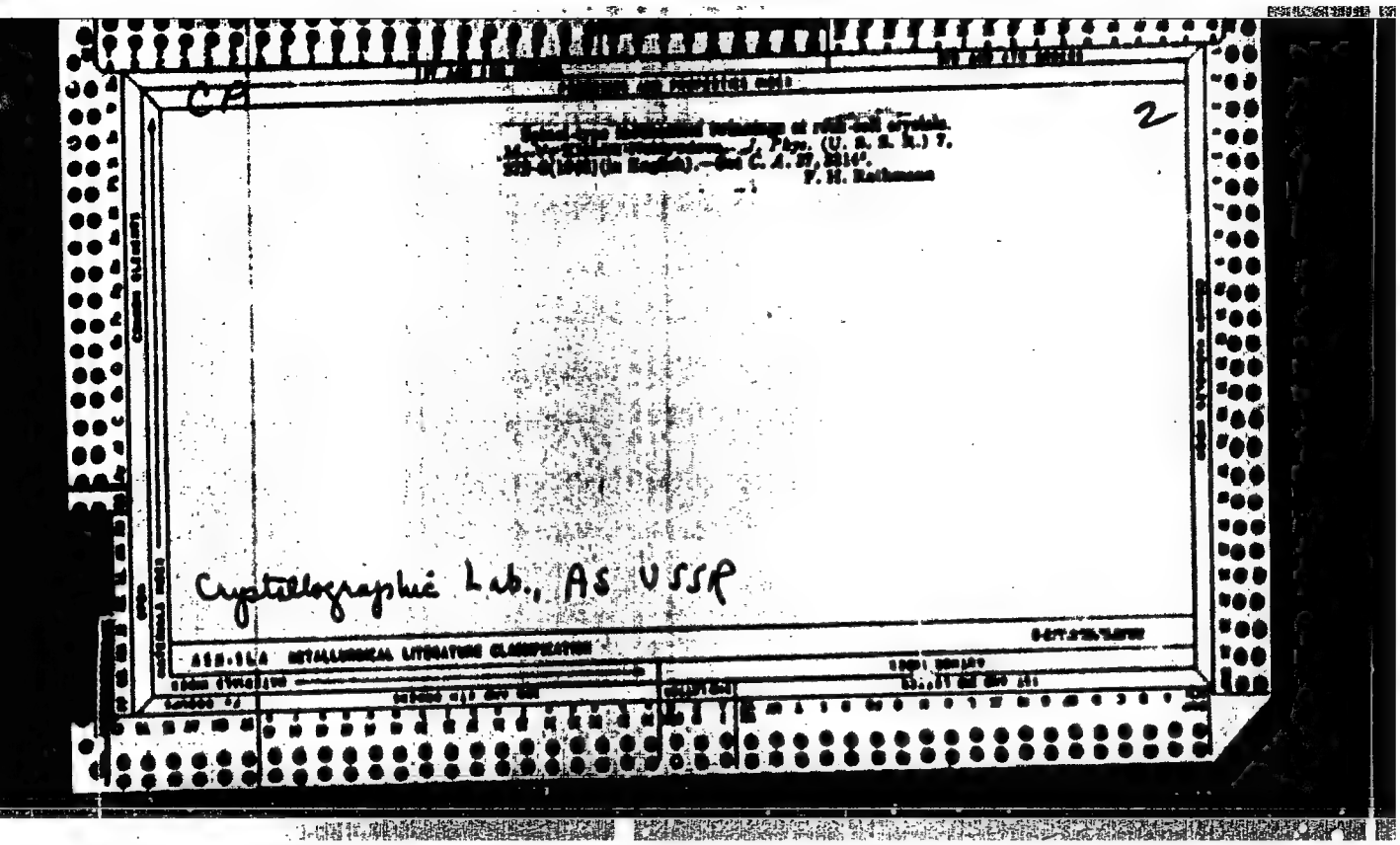
ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

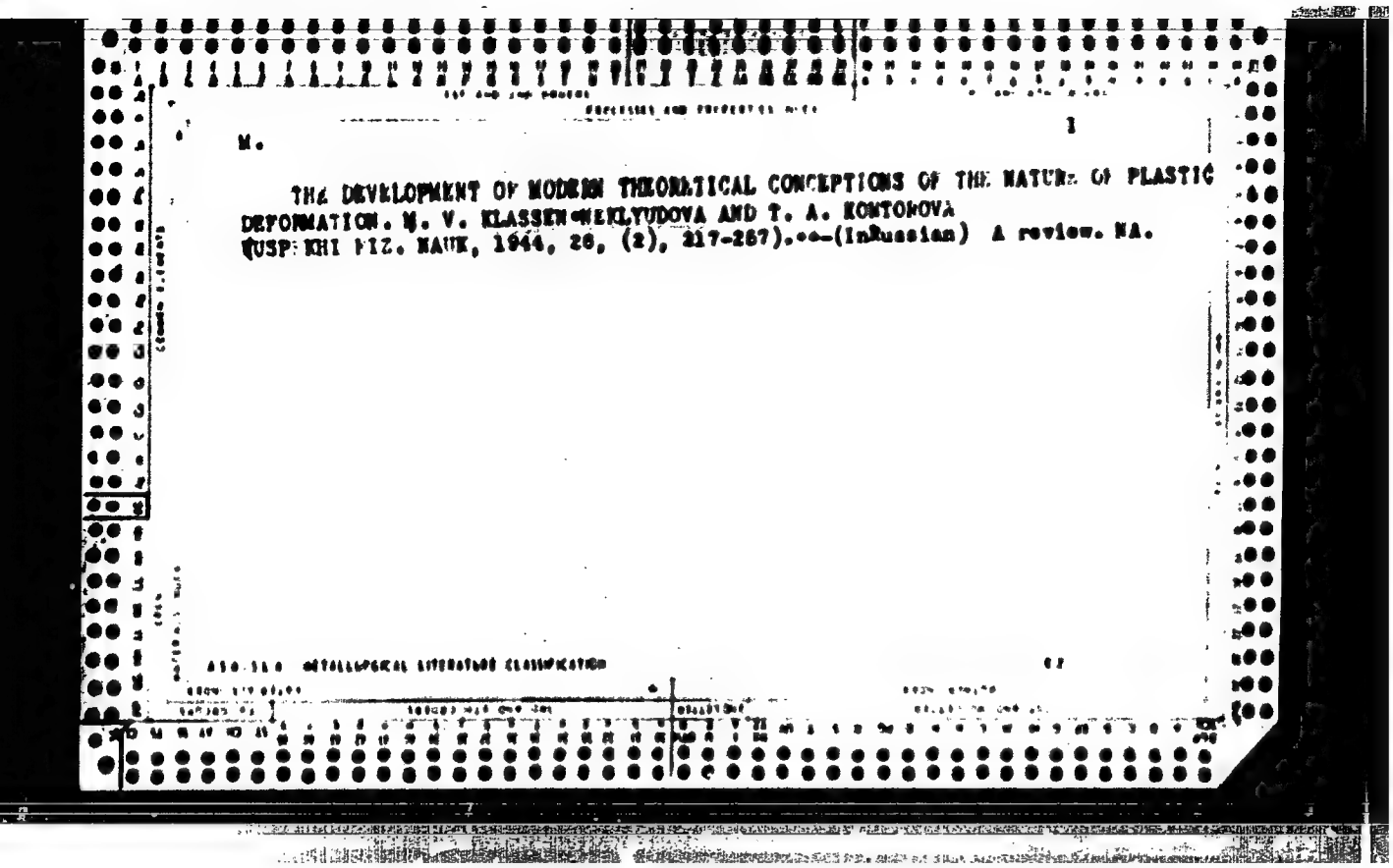


1- Abrasives

C

Mechanical properties of corundum crystals. M V Klassen-Nekliudova. *J Tech Phys* (USSR), 12, 519-31 (1942). *Chem Abstracts*, 38 [21] 5716 (1944).—The flexural strength was determined on prismatic plates of a rectangular section of about 1.5 x 2.5 mm and 15 to 20 mm long. Measurements were made on five types of plates cut as follows: Types 1 and 2 were cut parallel to the base plane (0001), i e, perpendicular to the optical axis *L3*. Type 1: the length is parallel to the symmetry plane *P*, the width coincides with the binary axis *L²*, and the thickness with the axis *L3*. Type 2: the length coincides with *L²*, the width is parallel to *P*, and the thickness to *L3*. Types 3 and 4 were cut perpendicular to the base plane (0001), i e, parallel to the main axis *L3*. In type 3 the length was parallel to *L3*, the width parallel to *P*, and the thickness parallel to *L²*. In type 4 the length coincided with *L3*, the width with the direction of one of the binary axes, and the thickness with *P*. Type 5: the length is parallel to *P*, the width to *L3*, and the thickness to *L²*. Breakage on bending will consequently occur as follows: with type 1 along the prism plane (10$\bar{1}$0); with type 2 along (11$\bar{2}$0); with types 3 and 4 along the base plane (0001); and with type 5 along (10$\bar{1}$0). The mean values of the strength on bending were found to be, respectively, (1) 2112, (2) 3630, (3) 7010, (4) 8125 kg/sq. cm. Annealing at temperatures of 1500° to 1600°, followed by slow cooling down to room temperature, tends to increase the strength. No worth-while change of inner stress is brought about through annealing at about 1000° to 1100°. Cleavage occurs preferentially along the rhombohedral planes (10$\bar{1}$0).





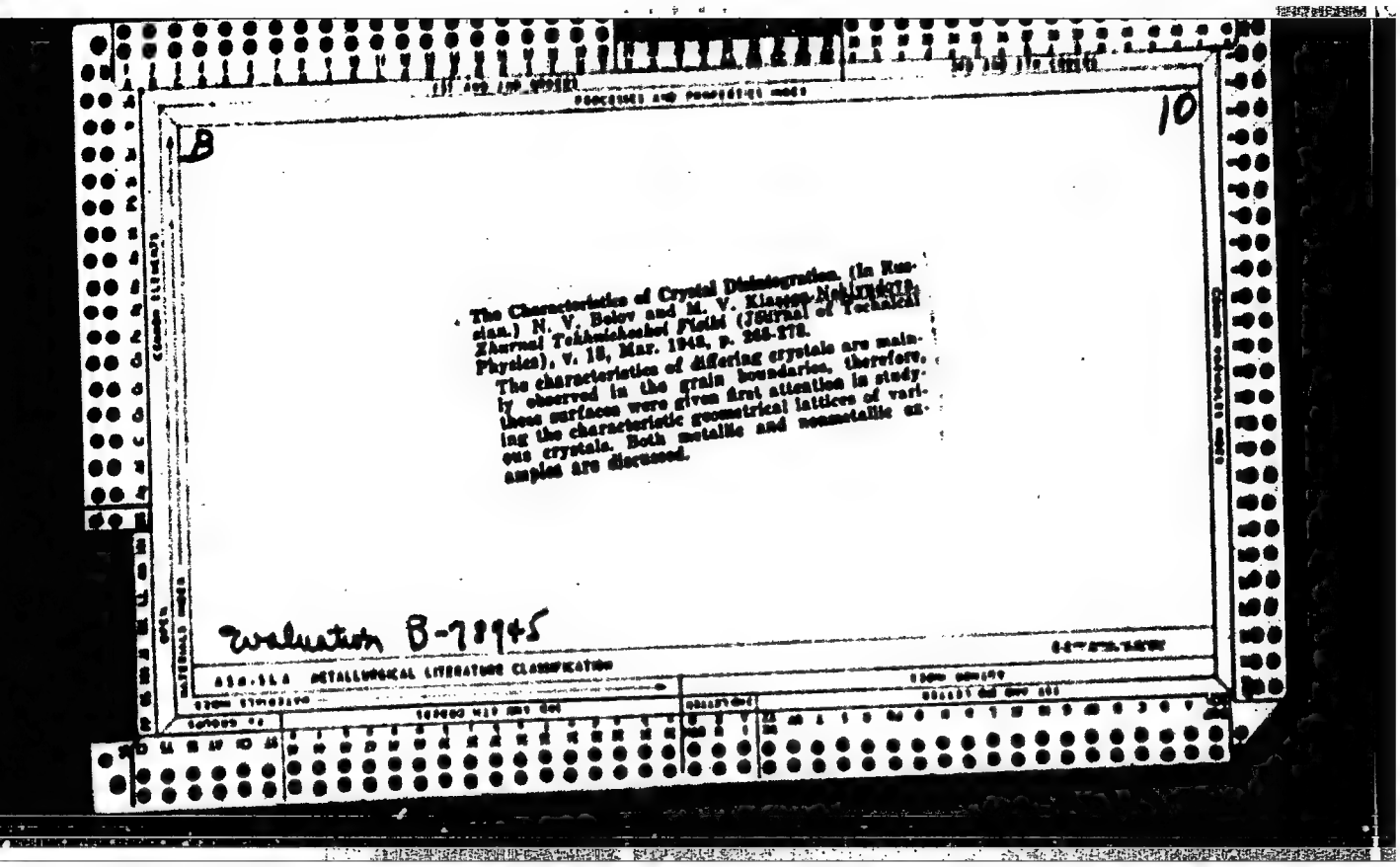
M.

THE DEVELOPMENT OF MODERN THEORETICAL CONCEPTIONS OF THE NATURE OF PLASTIC DEFORMATION. M. V. KLASSEN-NEKLYUDOVA AND T. A. KONTOROVA (USP. KHI FIZ. NAUK, 1944, 26, (2), 217-267).--(In Russian) A review. NA.

2

Investigation of the possibility of obtaining strong construction materials from thin glass filaments. I. The procedure and the mechanical properties of the glued materials. A. K. Burov, M. Y. [illegible], O. A. Andreevskaya, E. N. [illegible], [illegible], and M. A. Chernyakova (Inst. Crystallography, Acad. Sci. U.S.S.R.). *J. Tech. Phys.* (U.S.S.R.) 18, 467-84(1948).—Glass filaments were wound on a drum and simultaneously sprayed with a binder soln. After the solidification of the binder the sheet formed was cut parallel to the axis of the drum, and a sheet was obtained which was, e.g., 90 cm. long, 28 cm. wide, and 0.15 mm. thick. The glass contained SiO_2 72.16, Na_2O 17.22, CaO 6.28, MgO 3.52, and B_2O_3 0.97%. The ultimate tensile strength *P* of the filaments increased linearly with 1/*d*, *d* being the diam. of the filament. With *d* = 12 μ *P* was 160 kg./mm.² and filaments of 12 μ *d* were used in the majority of the expts. Among the binders phenol-formaldehyde and bitumen were too brittle, acrylic resins did not adhere to glass, bitumens gave low *P* values. Gelatin, glyptal resins, and a polyvinyl resin obtained as by-product of synthetic rubber gave the highest *P* values, viz. 90 (for 54% of glass), 108 (for 77% of glass), and 90 kg./mm.² (for 56% of glass), resp. Sheets contg. 50-60% glass had an *P* of 45-70 kg./mm.²; *P* increases linearly with the vol. % of glass in the sheet. Gelatin-contg. sheets have the least durability and sheets bonded with bitumen the worst. Filaments of the polyvinyl resin had an *P* of 12 and 70 kg./mm.² for *d* = 11 and 3 μ, resp. II. Ply-glass and glass strips. *Ibid.* [illegible].—The bonded sheets can be glued together, the filaments being either parallel or crossed. A [illegible] board bonded with gelatin had an *P* of 60, and a 5 mm.-thick board bonded with glyptal resin, an *P* of 70 kg./mm.² Bending stress at rupture was, e.g., 60-70 kg./mm.² for gelatin-bonded boards. Crushing strength of a cube bonded with polyvinyl resin was 20-25 kg./mm.². The Young modulus of glass filaments was [illegible], of sheets with 54% gelatin 3150, of sheets with 80% gelatin 400 kg./mm.². Also the modulus of rigidity increased with the glass content. Ribbons contg. 85% of glass filaments and 15% glyptal resin or bitumen can be substituted for steel wire in force concrete of the Freyssinet type. The total elongation of the sheets was 3-4%. J. J. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



B

10

The Characteristics of Crystal Disintegration. (In Russian.) N. V. Belov and M. V. Klassen-Neklyudova. Zhurnal Tekhnicheskoi Fiziki (Journal of Technical Physics), v. 18, Mar. 1948, p. 265-272.

The characteristics of differing crystals are mainly observed in the grain boundaries, therefore, these surfaces were given first attention in studying the characteristic geometrical lattices of various crystals. Both metallic and nonmetallic examples are discussed.

Evaluation B-7945

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KLASSEN-NEKLYUDOVA, M. V.

PA 55/49T86

USSR/Physics
Crystals

Dec 48

"The Actual Construction of Rochelle Salt Crystals," M. V. Klassen-Neklyudova, M. A. Chernyshova, A. A. Shternberg, Inst of Cryst, Acad Sci USSR, 3 1/3 pp

"Dok Ak Nauk SSSR" Vol LXIII, No 5

In research on mechanical properties of Rochelle salt crystals, definite anisotropy of elastic properties and complete absence of anisotropic stability were observed. Submitted by Acad A. F. Ioffe 7 Oct 48.

55/49T86

Electronic Phenomena
3

C.A.
1951

Effect of supersonic waves on the distribution of stress in a single crystal of a solid solution of thallium bromide and iodide. M. V. Klassen-Neklyudova and A. P. Kapustin (Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 77, 1019-21(1951). In a crystal of cubic TlBr + TlI, known for its very high photoelasticity (Smakula and Klein, C.A. 43, [illegible]), grown by abrupt cooling so as to leave distinct residual stresses visible between crossed polaroids, application of a supersonic field of 720 kilohertzes, of sufficient intensity, along the crystal axis, resulted in a disappearance of the isochromes, with the whole crystal becoming more or less uniformly transparent, and the stress pattern brkg. into discrete regions, fluctuating during the exposure on removal of the field, the original pattern is restored in from less than 1 to 23-31 sec., depending on the length of the exposure. The effect is evidently due to added stresses produced by the supersonic field. Small variations in the supersonic vibration of the quartz generator give rise to an instantaneous change of the stress pattern. This effect opens the possibility of using TlBr + TlI as an indicator of the resonance stability of a supersonic generator system. N. Thon

KLASSEN-NEKLYUDOVA, M. V.

Physical Properties of Synthetic Corundum—A Symposium /Fizicheskie Svoystva Sinteticheskogo Korunda/. Edited by A. [illegible] KLASSEN-NEKLYUDOVA, and B. V. [illegible] Moscow, Izd-vo AN SSSR, No 8, [illegible] The symposium was held in 1950 [illegible] corundum industry a complete survey of [illegible] of scientific investigations especially [illegible] and mechanical properties. The book has [illegible] an accurate knowledge of crystallo- [illegible] the basis of every working process. The [illegible] structural properties of real monocrystals are emphasized. The instruments used for the investigations are partly newly constructed and may be particularly recommended for studies of the physical properties of monocrystals other than those of synthetic corundum. References are given with each paper. **Results of laboratory research on different properties of synthetic corundum crystals.** [illegible] GRUM-GRZHIMAYLO and M. V. KLASSEN-NEKLYUDOVA. [illegible] The influence of impurities, e.g., Cr_2O_3, MgO, SiO_2, [illegible] V_2O_5, CaO, MnO, and CuO, is discussed. **Basic facts of the crystallography and structure of corundum crystals.** E. S. [illegible]. *Ibid.*, pp 13-20. **Thermal constants of α-Al_2O_3.** [illegible] G. CHENTSOVA. *Ibid.*, pp 21-26.—Thermochemical [illegible] are compiled. **Properties of isomorphous mixes of Al_2O_3 and Cr_2O_3.** [illegible] GRUM-GRZHIMAYLO. *Ibid.*, pp 27-34. The dimensions of the elementary cells and the fusion points of the crystalline solutions are given, together with data on densities and refractive [illegible] absorption spectra, and pleochroic phenom- ena. **Densities of synthetic corundum, especially the effects of crystalline solutions with Cr_2O_3.** E. S. SLAVINSKIY and I. N. [illegible]. *Ibid.*, pp 35-40. **Short review of the electrical properties of corundum.** M. Sh. [illegible] pp 41-42. Conductance as a function of temperature [illegible] the resistance is measured [illegible] content of rubies. [illegible] pp 43-46. Analytical data are given on the introduction of [illegible] into synthetic corundum crystals. [illegible] effects of small additions of CaO and MgO [illegible] the color of rubies are described. **Cr content of the batch and of synthetic ruby.** A. A. KISELEV and L. M. DOLGOVA. *Ibid.*, pp 47-50. The losses in Cr_2O_3 from the batch to the powder and the finished ruby composition are discussed. **Data on spectral analysis of corundum.** B. V. GRUM-GRZHIMAYLO. *Ibid.*, pp 51-56.—Domestic synthetic sapphires are compared with foreign products. The Russian samples are purer, containing less Fe, Cu, and Ca; foreign synthetic corundum products often contain Ti and V, and two samples showed Na. Only Cr and Mn are higher in domestic corundum products than in the foreign material. **Measurement of the refractive indices of synthetic corundum and of corundum batches.** N. M. MIKHEYENKO. *Ibid.*, pp 57-76.—The immersion method of I. V. Obreimov, 1919, for the determination of very small changes in refractive index is described. **Problems of the heating of corundum batches.** E. S. [illegible], A. A. KISELEV, and L. A. [illegible]. *Ibid.*, pp 77-88.—Special studies were made on the transition of γ-Al_2O_3, formed from alum, to corundum with increasing temperature and time of heat exposure.

GVLF

KLASSEN-NEKLYUDOVA, M.V.

Optical control in the study of the mechanical properties of synthetic corundum. Trudy Inst.kriat.no.8:151-164 '53. (MLRA 7:5)
(Corundum) (Deformations (Mechanics))

KLASSEN-NEKLYUDOVA, M. V., and TOMILOVSKIY, G. YE.

"Bending and Compression Tests of Corundum Crystals With Respect to Crystallographic Orientation,"
Tr. in-ta kristallogr. AN SSSR, No 8, pp 215-224, 1953

The method of preparation of oriented specimens and the way of determination of theoptical axis of the crystal by means of asterism using a konoscope is described. The bending test was carried out on prismatic crystalline lattice and the compression on cubes. It was established that the bending strength of corundum particularly depends on the direction of the crystalline axis. (RZhFis, No 4, 1955)

SO: Sum, No 606, 5 Aug 55

KLASSEN-NEKLYUDOVA, M.V.

KLASSEN-NEKLYUDOVA, M.V.; IKORNIKOVA, N.Yu.; TOMILOVSKIY, G.Ye.

Plastic deformation of synthetic corundum crystals. Trudy Inst. krist. no.8:237-246 '53. (MLRA 7:5)
(Corundum) (Deformations (Mechanics))

KLASSEN-NEKLYUDOVA, M.V.

KLASSEN-NEKLYUDOVA, M.V.; IKORNIKOVA, N.Yu.; TOMILOVSKIY, O.Ye.

Comparative study of the strength of synthetic corundum of various origin and investigation of the effects of mixtures on strength. Trudy Inst.krist. no.8:273-282 '53. (MLRA 7:5)
(Corundum) (Strength of materials)

KLASSEN-NEKLYUDOVA, M. V.

USSR/Physics - Crystallography, Deformation 1 Aug 53

"Complex Manifestation of Plastic Deformation of Single-Crystals," A. B. Zemtsov, M. V. Klassen-Neklyudova and A. A. Urusovskaya, Inst of Crystallography of Acad Sci USSR

DAN SSSR, Vol 91, No 4, pp 813-816

Special phenomena occurring at fast compression of solid solution of thallium bromide and Tl iodide were revealed by Zemtsov. Plastic deformation was followed by peculiar shifts within the single-crystal depending

272T89

on direction of compression. Results are shown on photographs and schematic diagrams. Presented by Acad A. F. Ioffe 13 Jun 53.

FD-1455

USSR/Engineering - Machine Study

Card 1/1 : Pub. 41-9/17

Author : Klassen-Neklyudova, M. V., Moscow

Title : Plastic deformation of metals at static load and normal temperature

Periodical : Izv. AN SSSR. Otd. tekh. nauk 7, 87-96, Jul 54

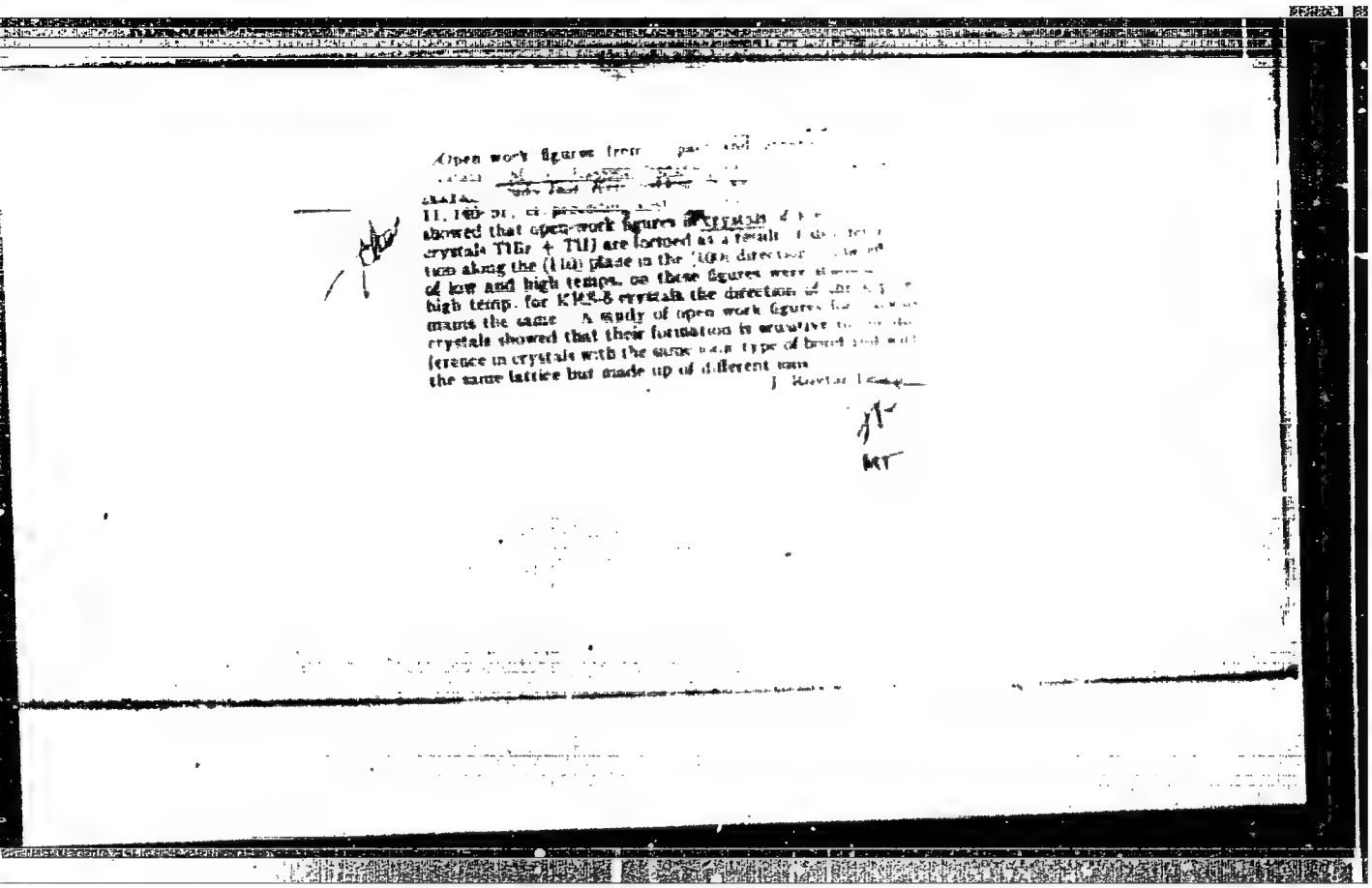
Abstract : Discusses, with frequent recourse to references, mechanism of plastic deformation of metals at ctatic load and normal temperature and describes methods by which plastic deformation of grains and of single crystals can occur, including slips and nonsymmetric reorientation of lattice. Diagrams; roentgenograms; photomicrographs. Twenty-two references.

Institution :

Submitted : July 1, 1954

M. V. KLASSEN-NEKLYUDOVA

The dislocation hypothesis of plasticity. M. V. Klassen-Neklyudova and T. A. Kantorova. *Uspekhi Fiz. Nauk* 33, No. 1, 243-81(1964).—The theory of plasticity based on the conception of lattice dislocations is criticized, because it leads to contradictions with expt. It is indicated that the more nearly perfect the crystal structure is, the lower will be the elastic limit and the more pronounced the tendency for plastic flow. The theory of Frenkel and Kantorova (*C.A.* 32, 4887; 34, 2149) which introduces "dynamic" dislocations appearing during the flow, as opposed to "static" dislocations present at the start, and the theory of Stepanov (*Zhur. Eksp. i Teor. Fiz.* 19, 493(1949); 20, 1104(1950)) attributing plastic deformation to the regular lattice are briefly discussed. S. Pakswer



Open work figures from [illegible]

[illegible] showed that open-work figures of crystals of the crystals T1Br + T1I are formed as a result [illegible] tion along the (1 1 0) plane in the [illegible] direction [illegible] of low and high temps. on these figures were [illegible] high temp. for KRS-5 crystals the direction of [illegible] mains the same. A study of open work figures for [illegible] crystals showed that their formation is [illegible] ference in crystals with the same [illegible] type of bond and with the same lattice but made up of different ions.

J. Kovtun [illegible]

KLASSEN-NEKLYUDOVA

The structure of the [illegible] halides? M. V. Klassen-Neklyudova and A. A. Urusovskaya (Inst. Cryst., Akad. Nauk S.S.S.R., Moscow). Kristallografiya 1, 564-71(1956).—Kink-bands with different crystallographic orientations were examd. in 3 specimens of TlBr-TlI crystals. Full correspondence was found between the optical pictures of the structures of the kink-bands and the forms of the Laue spots; the bands are a combination of regions turned around relative to each other about [110] directions. The layers of the kink are developed approx. perpendicular to the slip planes. The gradualness of kink formation was studied. Kink formation is not always accompanied by slipping but may be due to unsym. rotations of the lattice.

A. L. Mackay

Klassen-Neklyudova, M.V.

USSR/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds. E-10

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11900

Author : Klassen-Neklyudova, M.V., Urusovskaya, A.A.

Inst : Institute of Crystallography, Academy of Sciences, USSR.

Title : Influence of Inhomgeneous Stressed State on the Mechanism of Plastic Deformation of Thallium and Cesium Halogenides.

Orig Pub : Kristallografiya, 1956, 1, No 4, 410-418

Abstract : An investigation was made of the conditions under which reoriented regions (faults) occur during the process of plastic deformation in single crystals of the halogenides of Tl and Cs. It is shown that the plastic deformation is effected by means of faults in the case when there occurs a complicated stressed state, characterizing the presence of macro-bending moments. In addition, it is

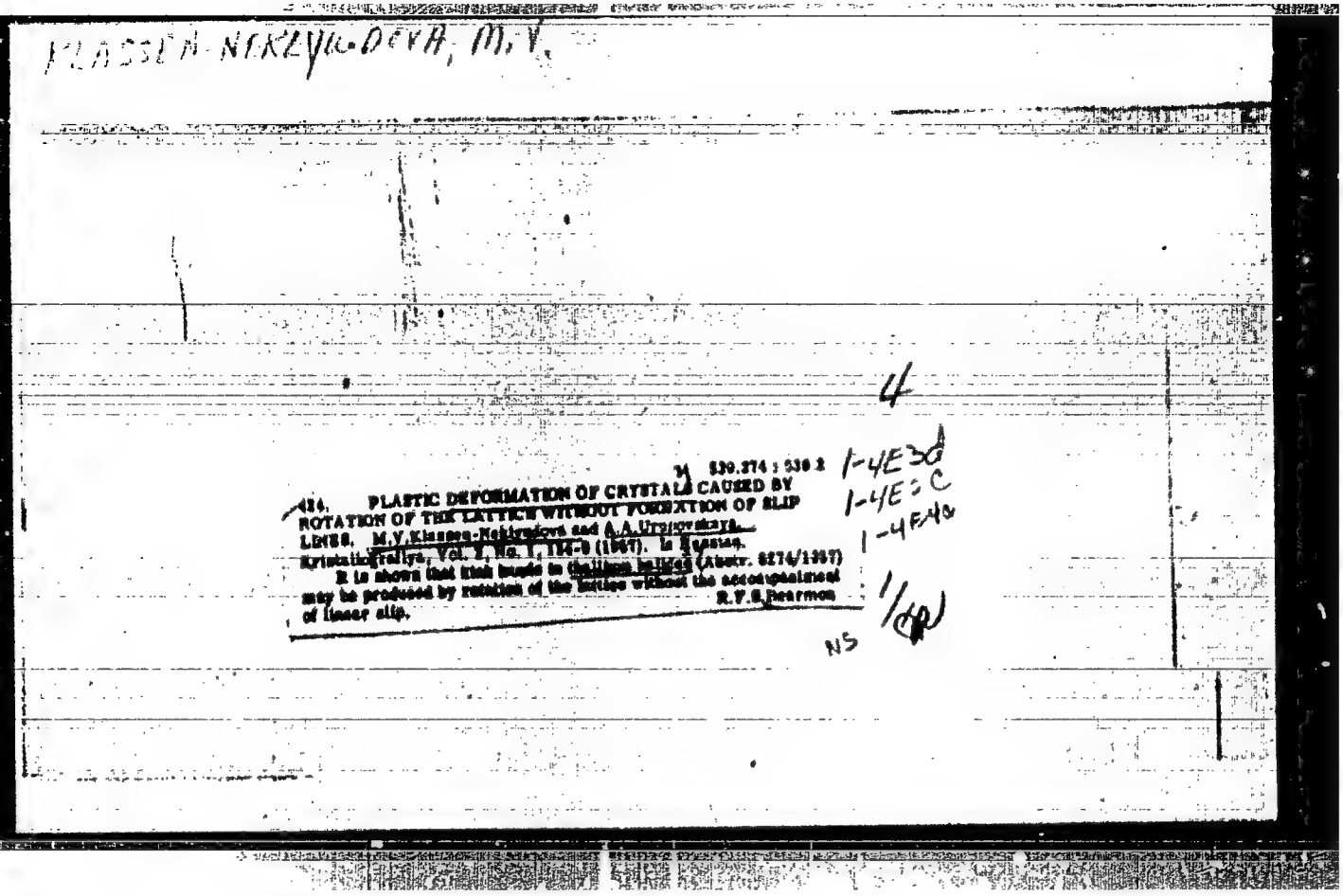
Card 1/2

USSR/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds. E-10

Abs Jour : Ref Zhur - Fizika, No 5, 1957, 11900

necessary that the crystallographic axes be oriented in a definite manner with respect to the axes of deformation of a specimen, so that the orientation of the specimen makes the slip deformation difficult.

Card 2/2



PLASTIC NICKEL-DEVR, M.V.

4

M 539.374 : 539.2 1-4E30
1-4E3C
1-4E40

434. PLASTIC DEFORMATION OF CRYSTALS CAUSED BY ROTATION OF THE LATTICE WITHOUT FORMATION OF SLIP LINES. M.V.Klassen-Nekliudova and A.A.Urusovskaya. Kristallografiya, Vol. 2, No. 1, 114-8 (1957). In Russian.

It is shown that this bends in thallium halides (Abstr. 8274/1957) may be produced by rotation of the lattice without the accompaniment of linear slip. R.F.S.Hearmon

1/(HP)

NS

KLASSEN-NEKLYUDOVA, M. V., INDENBOM, V. L., URUSOVSKAYA, A. A., TOMITOVSKIY, G. Ye.

Institute of Crystallography of Acad. Sci., USSR, Moscow.

"Comparason of Deformed Crystals with Etch-Pattern Distributions."
Paper submitted at

Program of the Conference on the Nnen-Metallic Solids of Mechanical Properties, Lenigrad May 19 - 26, 1958.

PHASE I BOOK EXPLOITATION SOV/5675

Klassen-Neklyudova, Marina Viktorovna

Mekhanicheskoye dvoynikovaniye kristallov (Mechanical Twinning of Crystals) Moscow, Izd-vo AN SSSR, 1960. 261 p. Errata slip inserted. 3000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut kristallografii.

Resp. Ed.: I. V. Obreimov, Academician; Ed. of Publishing House: Ye. L. Starokadomskaya; Tech. Ed.: G. N. Shevchenko and V. V. Bruzgul'.

PURPOSE : This book is intended for physicists, metal scientists, crystallographers, mineralogists, and geologists.

COVERAGE: The book contains experimental data on the reorientation of crystal lattices by twinning. Rules of the twinning process are reviewed and the physical nature of the deformation and the disintegration of metals, minerals, rocks, and crystals is

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Indenbom, Ye. V. Tsinzerling, and V. P. Konstantinova [the latter the Institut kristallografii - Institute of Crystallography] are discussed in the foreword and supplement. The author thanks V. L. Indenbom, G. Ye. Tomilovskiy, M. A. Chernysheva, and K. V. Flint. There are 438 references: 225 English, 146 Soviet, 60 German, and 7 French.

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KLASSEN-NEKLYUDOVA, M.V. (Moskva)

Physical bases of the plasticity and strength of crystals. Itogi nauki: Fiz.-mat. nauki 3:5-11 '60. (MIRA 13:7)
(Crystals) (Plasticity)

KLASSEN-NEKLYUDOVA, M.V.; CHERNYSHEVA, M.A.; TOMILOVSKIY, G.Ye.

On the process of kink formation. Kristallografiia 5 no.4:646-649 Jl-Ag '60. (MIRA 13:9)

1. Institut kristallografii AN SSSR.
(Cesium iodide) (Naphthalene crystals)

KLASSEN-NEKLYUDOVA, M.V.; URUSOVSKAYA, A.A.

Deformation of rock salt crystals at elevated temperatures.
Kristallografia 5 no.5:744-748 S-O'60. (MIRA 13:10)

1. Institut kristallografii AN SSSR.
(Rock salt crystals) (Deformations (Mechanics))

KLASSEN-NEKLYUDOVA, M.V.; ORLOV, A.N.; MIUSKOV, V.F.; TYAPUNINA, N.A.; SHASKOL'SKAYA, M.P.

Symposium on dislocations in and mechanical properties of solids, held in Cambridge (England). Kristallografiia 6 no.5:809-812 S-O '61. (MIRA 14:10)

1. Institut kristallografii AN SSSR.
(Dislocations in crystals—Congresses)

KLASSEN-NEKLYUDOVA, M.V., red.; BELYANOVSKAYA, L.N., tekhn. red.

[Stresses and dislocations in semiconductors]Napriazheniia i dislokatsii v poluprovodnikakh; sbornik statei. Pod red. M.V. Klassen-Nikliudovoi. Moskva, 1962. 66 p. (MIRA 16:2)

1. Akademiya nauk SSSR. Institut kristallografii.
(Semiconductors)

S/070/62/007/004/001/016
E132/E435

AUTHORS: Klassen-Neklyudova, M.V., Rozhanskiy, V.N.

TITLE: Basic tasks in the physics of the rigidity and plasticity of crystals

PERIODICAL: Kristallografiya, v.7, no.4, 1962, 499-506 + 1 plate

TEXT: Review article discussing recent work on the mechanical properties of crystals and its importance in explaining the characteristics of real materials. The scope for improving mechanical properties is indicated as is the importance of the subject from the point of view of producing new materials. It is hoped that Nauchnyy sovet po probleme fiziki tverdogo tela (Scientific Council for Solid State Physics), created by the Akademiya nauk SSSR (Academy of Sciences USSR), would coordinate in this field. Foreign literature, in translation, on this subject should be more widely circulated. Several universities are extending their courses on the mechanical properties of crystals and the main task is to produce a detailed theory explaining the actual properties of real crystals. A list of regions in which there is scope for more practical and theoretical

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URUSOVSKAYA, A.A.; TYAGARADZHAN, R.; KLASSEN-NEKLYUDOVA, M.V.

Dislocation structure of PbS crystals in the region of concentrated leading. Kristallografiia 8 no.4:625-631 Jl-Ag '63. (MIRA 16:9)

1. Institut kristallografii AN SSSR.
(Dislocations in crystals) (Lead sulfide)

URUSOVSKAYA, A. A.; KLASSEN-NEKLYUDOVA, M. V.

"Investigation of dislocation structure of crystals of PbS."

Report presented at the 6th International Congress and Symposia, International Union of Crystallography, Rome, Italy, 9-18 Sept. 1963.

URUSOVSKAYA, A.A.; TYAAGARADZHAN, R.; KLASSEN-NEKLYUDOVA, M.V.

Formation of punching figures in galenite. Kristallografiia 8 no.6:929-932 N-D'63. (MIRA 17:2)

1. Institut kristallografii AN SSSR.

TYAADARADZHAN, R.; URUSOVSKAYA, A. A.; KLASSEN-NEKLUDOVA, M. V.

"Investigation of dislocation structure of crystals of PbS."

report submitted for 6th Gen Assembly, Intl Union of Crystallography, Rome, 9 Sep 63.

Inst Crystallography, AS USSR, Moscow.